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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,796	11/25/2003	Yoshihiro Yamaguchi	03683/LH	9086
1933	7590	10/17/2005	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC			PASCHALL, MARK H	
220 5TH AVE FL 16			ART UNIT	
NEW YORK, NY 10001-7708			PAPER NUMBER	
			3742	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/723,796

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Mark H Paschall

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11-25-03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ep 671'. The claims; are rejected for the same reasons set forth in page 2 of the previous office action mailed on 11-17-04. As per claim 5 note that the flow of plasma from the torch is aligned with the location that the flow of dross is directed to and these flow paths are thus connected, as defined. See Ep column 4, lines 33-39.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ep 671 in view of Nakata et al.

The claim is rejected for the same reasons set forth on page 3 of the previous office action mailed on 11-17-04.

### ***Response to Arguments***

Applicant's arguments filed 14 February 2005 have been fully considered but they are not persuasive. Applicants remarks advance that the present claim limitations including amendments to the claims filed in the response, are not met by the prior art as applied. In particular Applicant's contend that the dross inhibitor in the prior art systems isn't originated from within the plasma torch, as claimed. It is the Examiner's position that a plasma torch can comprise a system other than a single torch head. For instance, the torch can contain components such as sensors, shielding systems and gas supplies and these components are commonly referred to as part of the torch. In this respect, the means 4 in Ep 6781' do comprise part of the plasma torch. Applicants claim language has not limited the plasma torch components in any manner. As set forth above plasma torch is comprised of many components. Typically a pair of electrodes, a nozzle, a shield cup, a gas supply and a valve system, a power supply and a control system all can comprise a "plasma torch". Claim 1 has been amended to

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set forth the step of “**jetting** a dross adhesion inhibitor **from** the plasma torch”. Since figure 2 in Ep shows the jetting means 4 closely aligned with the torch head, obliquely right above the torch tip. In view of the above interpretation of what components comprise a plasma torch, it is clear that the inhibitor is jetted via means 4 in Ep from the plasma torch, as claimed. As set forth in claim 2 the inhibitor is stopped during the cutting of the work and Ep teaches the same step in column 5. As per claim 3, Ep does teach a plasma torch and jetting means for jetting a dross inhibitor onto a cutting start position of the workpiece. Claim 4 defines that the dross inhibitor is mixed with an assist gas and jetted via the assist gas to the work along the plasma arc to form the cut. In Ep the flow of inhibitor is alongside the flow of plasma from the torch head and does meet the arc at the cutting location, generally. This teach makes it clear that the limitation defining jetting an inhibitor along a plasma arc, is taught. The patent to Nakata et al do teach use of an assist gas in a laser cutting torch to effect movement of a dross inhibitor, as claimed. Applicant’s remarks advance that the inhibitor in Nakata et al is used for dross inhibiting within the torch nozzle and not along a cut. This is correct. Nakata has been relied on in the rejection of claim 4 for merely teaching that a dross inhibitor can be delivered with use of a gas in a plasma torch and the artisan would have been motivated by such teaching to use a gas to assist delivery of the inhibitor, since the use of gas or liquid is quite common in plasma torch systems and make the delivery of powders, reactants and other materials easier and quicker. With respect to claim 5 the claim defines that the flow path of the inhibitor is “connected” to the plasma flow path. Note that the flow path of the inhibitor is connected to the plasma flow at the

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intersection of these two flows which occurs at the work surface. EP 671' in column 4, paragraph 4 sets forth that the inhibitor is jetted onto the work at the piercing start location and then the torch is moved to center the torch over the dross inhibitor coating and that torch cutting is started. The limitations of claim 5 are met by this teaching and Applicants remarks are moot with respect to this point since the Nakata et al patent has been removed from the rejection of claim 3 in view of the amendments to claim 3 and this limitation is taught in Ep 671, as described above.

Applicants remarks are directed in a manner that would be consistent with claim terminology which defines a dross inhibitor being injected into a torch head and moving thru the torch and out ;a nozzle to the cutting start site. These remarks are not persuasive since the present claim language does not define this terminology. The claims are silent as to just what components comprise the plasma torch of the instant invention. The claims are also silent as to any flow of inhibitor thru a plasma-producing region in a plasma torch. The instant claims merely describe jetting an inhibitor to a cutting start location to prevent dross buildup, and these limitations are clearly defined in the Ep reference. For these reasons the rejection of claims 1-5 is proper as set forth.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the


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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H Paschall whose telephone number is 703 308-1642. The examiner can normally be reached on 7am - 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mark H Paschall  
Primary Examiner  
Art Unit 3742

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